

# Work Order ID 64409

December 6, 2010 7:38:13 AM



Page 1

Item ID: D2622-120C

Accept



Setup Start



Revision ID:

Stop



Item Name: Step Extrusion

Start Date: 12/06/10 Start Qty: 120.00



Cust Item ID:

Required Date: 1/17/11 Req'd Qty: 120.00



Customer:

Reference:

Run Start



Approvals: Process Plan: CY Date: 10/12/06 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2622	Rev C1

100

0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 13067 ☐a) Extrude as per Dwg D2622 Rev. C ☐b)  
Material: 6061-T6 (QQ-A-200/8) ☐c) Minimum yield tensile strength = 35  
ksi ☐d) Minimum ultimate tensile strength = 38 ksi ☐e) Minimum elongation =  
8% ☐f) Order at 120" longg) Bon L Canada Inc.

CY 10/12/06 120

110

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

Ensure material certification is attached

12/17/10 133

120

QC6- Inspect dimensions to drawing

0.00



QC

Memo

0.00

Quality Control

Check Pull test per Dwg D2622 for compliance page attached Check hardness  
with Webster tester

Silvalis 12/17/10  
Petes

173  
QS/10/9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 64409

December 6, 2010 7:38:13 AM



Page 2

Item ID: D2622-120C

Accept



Setup Start



Revision ID:

Stop



Item Name: Step Extrusion

Start Date: 12/06/10 Start Qty: 120.00



Cust Item ID:

Required Date: 1/17/11 Req'd Qty: 120.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

Identify as per dwg & Stock Location: 88 Welding

0.00



Packaging

Memo

45 Back Haul

133

11/01/18

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/01/19

mf

11-01-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 1

December 6, 2010 7:38:13 AM

Work Order ID: 64409



Parent Item: D2622-120C



Parent Item Name: Step Extrusion



Start Date: 12/06/10

Required Date: 1/17/11

Start Qty: 120.00

Required Qty: 120.00

## Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2622-120CP  Extrusion		Purchased	No			110	Each	0.0000	1 	120		12/16/10	(33)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

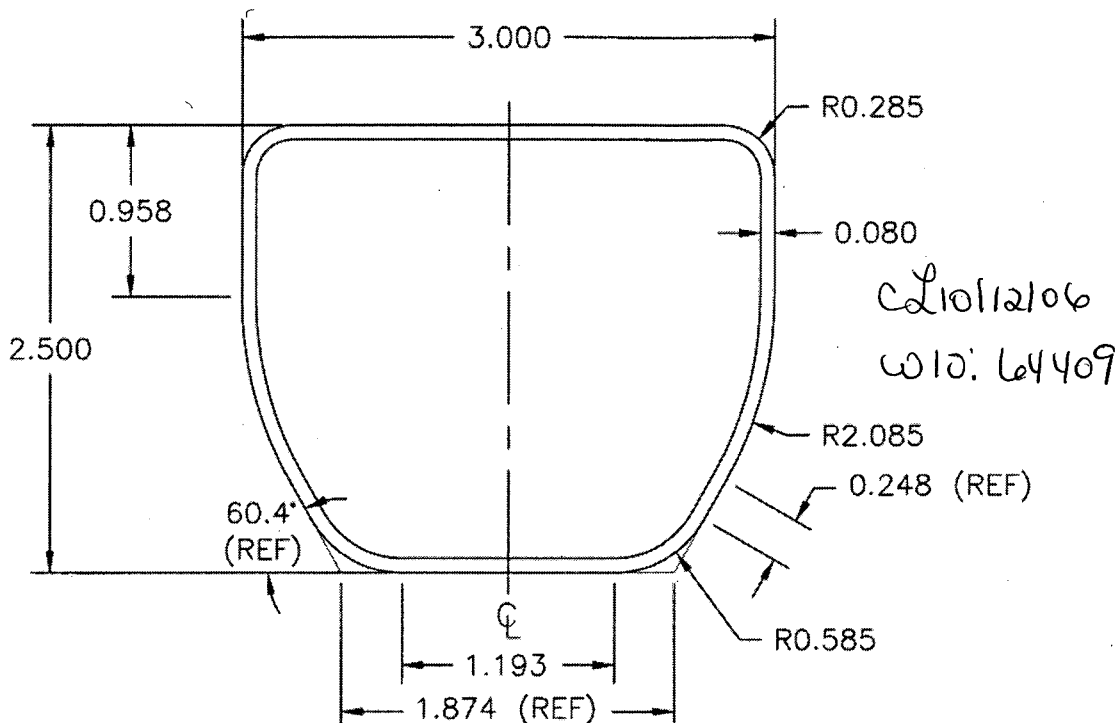
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN	KE	DRAWN BY	GP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	#	APPROVED	#	DRAWING NO. D2622	REV. C SHEET 1 OF 1
DATE	02.09.11			TITLE STEP EXTRUSION	SCALE 1:1
A	96.11.29			NEW ISSUE	
B	97.12.12			CHANGE MATERIAL, ADD TOL. QSI	
C	02.09.11			0.080 WAS 0.085; ADD PART & DIE No.	
CI	#	GP	02.10.04	ADD 'REV. A' TO DIE NUMBER.	

RELEASED  
02.09.11 #



#### D2622-XXX STEP EXTRUSION

- 1) PART NUMBER IS D2622-XXX WHERE 'XXX' IS CUT LENGTH IN INCHES (EG. D2622-120 IS 120" LONG)
- 2) MATERIAL 6061-T6 (QQ-A-200/8)
- 3) MANUFACTURED USING BON-L DIE # 897123 REV. A
- 4) A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE MINIMUM MECHANICAL PROPERTIES STATED BELOW:

MINIMUM TENSILE YIELD STRENGTH = 35 ksi  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi  
MINIMUM ELONGATION = 8%

- 5) PART IS SYMMETRIC ABOUT CENTERLINE
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 7) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO13067

Purchase Order Date 12/06/10  
PO Print Date 12/06/10

Page Number 1 of 1

Order From :

VC-BON001

SIGNATURE ALUMINUM  
1850 CLEMENTS ROAD  
PICKERING, ON L1W 3R8  
CA

Contact Name

Vendor Phone

800 563 1079

Vendor Fax

800 565 8339

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

10127-2607

Tax Resale Nbr

Net 30

Terms

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAXED**  
6710/12/10  
e-mail Davis

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D2622-120CP	Extrusion	1/17/11 Yes	120.00 Each	Yours ppd	\$24.0000	\$2,880.00

McC 133

**Special Inst:** EXTRUDE AS PER DWG D2622 REV. C  
B64409  
MATERIAL: 6061-T6 (QQ-A-200/8)  
MINIMUM YIELD TENSILE STRENGTH  
= 35 KSI  
MINIMUM ULTIMATE TENSILE  
STRENGTH = 38 KSI  
MINIMUM ELONGATION = 8 %  
120" LONG  
SIGNATURE ALUMINUM DIE # DAA-  
897123  
A SAMPLE FROM EACH BATCH WILL  
BE PULL  
TESTED TO ASTM STANDARD B221

MATERIAL CERTIFICATION  
REQ'D UPON DELIVERY

PO Total:

\$2,880.00

Change Nbr: 1

Change Date: 12/06/10

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable





ACCT# 00046024

INVOICING COMPANY AND LOCATION  
SIGNATURE ALUMINUM CANADA  
1850 CLEMENTS ROAD  
PICKERING ON L1W 3R8

## SHIPPING MANIFEST

MANIFEST DATE	01-16-11
MANIFEST NUMBER	686676
SALES ORDER NUMBER	67515

REFER TO  
THESE NUMBERS ON  
ALL CORRESPONDENCECREDIT REP  
DHILLON, ROBE

SALES REP

SHIP TO  
DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY ON  
K6A 1K7 CNSOLD TO / PURCHASER  
DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY ON  
K6A 1K7 CNTERMS / FREIGHT  
O / P

PHONE 613-632-5200

PHONE 613-632-5200

LOCATION  
PICTRAILER NUMBER  
26934SALESMAN  
62554FIELD SALES REP  
Bates M  
905-427-2235CUST SERVICE REP  
Burton D  
905-427-2227CUSTOMER ID  
46024ORDER DATE  
12/06/10CUSTOMER PO NUMBER  
13067

JOB

BILL OF LADING NUMBER  
08412690

ITEM NO.	ORIGINAL ORDER QUANTITY	UNIT	PREVIOUS SHIPPED QUANTITY	MFG. PART NUMBER	ALLOY & TEMPER	FINISH DESCRIPTION	THIS SHIPMENT			UNIT	QUANTITY DUE
				CUSTOMER PART NUMBER	LENGTH	FABRICATION DESCRIPTION	NBR OF PKGS	GROSS POUNDS	NET QUANTITY		
					CUTTING TOLERANCE	SHIPPING TOLERANCE					
01	1104	LB	0	DAA-897123-1	6061 /T6	MILL	3	1301	1248	LB	0
	1210	FT	0	D2622	120"	CERTIFICATE OF COMP			1329.99	FT	0
	121	PC	0		+3/16 "	(+015-015,0139-0102)			133	PC	0
					-0 "						
				LOT/TKT DETAIL:		67515010 / 382921	1	344	326		35 PC
						67515010 / 382922	1	478	461		49 PC
						67515010 / 382923	1	478	461		49 PC

Transportation/Traffic damages and/or shortage claims are to be noted on the delivery copy of sellers shipping manifests and signed and dated below by customers authorized representatives.

No return materials will be accepted for credit without permission. The articles and/or services covered by this shipping manifest were produced in accordance with the fair labor standards act of 1938 as amended. Order accepted subject to the terms and conditions stated on the reverse side.

PAGE 1

3	1301	1248	LB
		1329.99	FT
		133	PC
TOTALS			

# CERTIFICATE OF COMPLIANCE

## SIGNATURE ALUMINUM CANADA

1850 CLEMENTS ROAD  
PICKERING, ON L1W 3R8

Cert. Date	Cert. No.	Sales Order	Page
01/16/11	212423	67515	1
Cert. PG.	B/L No.	Lot	Date
13067	08412690	67515010	1/16/11

Sold To	Ship To
46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7	46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Item No.	Part No.	Item Description	Cust Part
1.000	DAA-897123-1	DIE REV. A	D2622

Gross Weight	1301 LBS
--------------	----------

Net Qty	1,248 LB	133 PC	1330 FT	3 PKG
---------	----------	--------	---------	-------

Specification	Die Desc
AMS-QQ-A-200/8 & ASTM B221-08	

### Mechanical Tests:

Test No.	Tensile MPA / KSI	Yield MPA / KSI	%Elongation	Conductivity	Bend/ Drift HREW
1	289.2 / 42.0	262.6 / 38.1	10.5	.0	91

### Chemical Analysis:

SI	FE	CU	MN	MG	CR	ZN	TI
.69	.29	.26	.05	.91	.05	.06	.02

This will certify that the material described herein has been inspected and tested in accordance with Signature Aluminum Canada's standard sampling and testing procedures or in accordance with the requirements of any specification forming a part of the material description to the extent indicated herein. Data of chemical composition for the material and test results from samples representative of the material are set forth above hereof or in any attachments hereto. This information shows that the material meets the applicable requirements. Inspection and test records are maintained on file. This certificate shall be deemed apart of and subject to the terms and conditions of warranty set forth on the reverse side of our order acknowledgment form. No other warranties are applicable.

Ryan Petersen, QA Manager Signature Aluminum Canada Inc



# CERTIFICATE OF COMPLIANCE

## SIGNATURE ALUMINUM CANADA

1850 CLEMENTS ROAD  
PICKERING, ON L1W 3R8

Cert Date	Cert No	Sales Order	Page
01/16/11	212423	67515	1
Cust PO	B/L No	Lot	Date
13067	08412690	67515010	1/16/11

Sold To	Ship To
DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7	DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Item No	Part No	Item Description	Cust Part
1.000	DAA-897123-1	DIE REV. A <u>6061 T6</u>	D2622
Gross Weight	1301 LBS		
Net Qty	1,248 LB	133 PC	1330 FT 3 PKG

Specification	Die Desc
AMS-QQ-A-200/8 & ASTM B221-08	

### Mechanical Tests:

Test No.	Tensile MPA / KSI	Yield MPA / KSI	%Elongation	Conductivity	Bend/ Drift HREW
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### Chemical Analysis:

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*Sulalis*

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Ryan Petersen, QA Manager Signature Aluminum Canada Inc

**Chantal Lavoie**

---

**From:** Burton, Doris [Doris.Burton@signaturealuminumcanada.com]  
**Sent:** January 18, 2011 11:04 AM  
**To:** Chantal Lavoie  
**Subject:** FW: 13067  
**Attachments:** Scan from Xerox WorkCentre (108 KB)

Here we go.  
Thank you.

**Doris Burton**

Customer Account Representative  
Signature Aluminum Canada Inc.  
Phone: 1-800-563-1079 Fax: 1-800-565-8339  
doris.burton@signaturealuminumcanada.com



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-----Original Message-----

**From:** Chantal Lavoie [mailto:clavoie@dartaero.com]  
**Sent:** Tuesday, January 18, 2011 10:01 AM  
**To:** Burton, Doris  
**Subject:** RE: 13067

Hi Doris,  
Could you just add by hand and send it back too me.  
Where it is marked item description die rev.a could you add material: 6061-T6.  
Thanks  
Chantal

---

**From:** Burton, Doris [mailto:Doris.Burton@signaturealuminumcanada.com]  
**Sent:** January 18, 2011 9:59 AM  
**To:** Chantal Lavoie  
**Subject:** RE: 13067

Chantal, the alloy doesn't appear on the Test Certificate. There is nothing we can do about this for now.  
We are changing computer system in the nest month and hopefully this will be corrected.  
The specs. are listed and we certify the metal to the specs. mentioned .  
Regards,

**Doris Burton**

Customer Account Representative  
Signature Aluminum Canada Inc.  
Phone: 1-800-563-1079 Fax: 1-800-565-8339  
doris.burton@signaturealuminumcanada.com



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-----Original Message-----

**From:** Chantal Lavoie [mailto:clavoie@dartaero.com]  
**Sent:** Tuesday, January 18, 2011 9:10 AM  
**To:** Burton, Doris  
**Subject:** RE: 13067

Hi Doris,  
On the material spec's the material is not marked on it.  
Thanks  
Chantal

---

**From:** Burton, Doris [mailto:Doris.Burton@signaturealuminumcanada.com]  
**Sent:** January 18, 2011 8:52 AM  
**To:** Chantal Lavoie  
**Subject:** RE: 13067

Chantal, I don't understand your question.....  
In any case, I am attaching the Certificate of Compliance, if this is what you meant.  
Regards,

## Doris Burton

Customer Account Representative  
Signature Aluminum Canada Inc.  
Phone: 1-800-563-1079 Fax: 1-800-565-8339  
doris.burton@signaturealuminumcanada.com



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-----Original Message-----

**From:** Chantal Lavoie [mailto:clavoie@dartaero.com]  
**Sent:** Tuesday, January 18, 2011 8:28 AM  
**To:** Burton, Doris  
**Subject:** p/o:13067

Hi Doris,  
Could you please revised the material of compliance there is no material spec's 6061-T6.  
Thanks  
Chantal